

ALWAYS CHECK NOVAFLOOR.US FOR THE LATEST INSTALLATION, WARRANTY AND MAINTENANCE INSTRUCTIONS. IT IS THE RESPONSIBILITY OF THE INSTALLER TO ENSURE THAT THE MOST CURRENT DOCUMENTS ARE USED DURING INSTALLATION OF NOVALIS® LUXURY VINYL FLOORING.

General Guidelines

1. The space where flooring is to be installed shall be fully enclosed and the permanent HVAC system shall be operational at 65° - 80° Fahrenheit (18° to 26° Celsius) for 10 days before installation, during installation and for 10 days after installation. The temperature of the space shall be kept at a minimum of 60° Fahrenheit (13° Celsius) continually after installation. *Avoid dramatic and large temperature increases.*
2. Novalis recommends storing of the **Lyndon HDC** product, preparation materials and accessories onsite prior to installation to ensure the products are at equilibrium with the installation environment.
3. Lyndon HDC floating floors should be protected from direct sunlight and not exposed to direct sunlight for extended periods of time by use of blinds, drapes or suitable window coverings or be in use in areas of large amounts of direct sunlight exposure.
4. All door jambs must be undercut to allow for proper expansion of the product and a minimum of 5/16" gap shall be allowed for against any vertical surface or obstruction. Steel door jambs should be patterned scribed with the 5/16" expansion spacing taken into consideration when scribing. Use of color coordinated silicone should be used against the jamb to fill the expansion spacing and aesthetically complete the installation.
5. Do not use tapping blocks, adjustable spacers (screw type) or other tools common to hardwood and laminate flooring installation to prevent damage to the locking mechanism. A small, 6", piece of Lyndon HDC scrap flooring with the top joint tongue intact should be used as a tapping block.
6. Lyndon HC floating flooring is designed to be installed as a "floating" floor. Do not secure individual planks or tiles to the subfloor with mechanical fasteners or adhesives. Do not install cabinets, kitchen islands or other non-movable objects on top of or through Lyndon HDC floating floors.
7. Use of a small, soft bristle brush to clean the joints prior to locking will ensure that there is no debris which will cause stressing or failure of the joint after interlocking the pieces together.
8. Use care when installing wall moldings and transition strips to not fasten through Lyndon HDC floating flooring planks or tiles. A spacing of .010" (.254mm) shall be kept above the floor when installing moldings over the surface of the floor.
9. Lyndon HDC planks and tiles are best cut in the following ways: guillotine-type hardwood/laminate cutter; a VCT cutter (professional grade); a sabre saw with a fine-tooth wood cutting blade; a 12" power miter saw with a shallow or negative kerf blade, similar or equal to a plastics cutting blade. If you are scoring and snapping Lyndon HDC by use of a utility knife, please note it will be necessary to score the LVT layer multiple times to ensure a good break and then shave the backing of the piece to make it smooth and even. This method may also cause the backing to crack or break off in areas close to the score line which will require using a new plank.

**** Improper storage or acclimation of floating vinyl flooring may result in gapping, or buckling of joints which are difficult to engage properly. Improper locking of the mechanism may cause one or more of the following conditions in your flooring: joints to be distressed resulting in a 'peaked' appearance; delamination due to ledging; separation of joints from normal environmental temperature changes; cupping or side joint failures.**

SUBFLOOR INFORMATION

Approved Substrates

All substrates regardless of composition must be smooth and flat to within 3/16” (4.76mm) in 10 feet or achieve an “F32” rating by use of mechanical grinding/sanding or suitable Portland cement based patch/level compound.

- Above, on or below grade concrete without hydrostatic pressure, excess moisture or alkalinity; must be fully cured and dry, free from curing compounds, sealers, etc.
- Above or on grade lightweight concrete, properly prepared and without hydrostatic pressure, excess moisture or alkalinity
- Above or on grade Gypsum concrete surfaces, properly prepared and sealed, and without hydrostatic pressure, excess moisture or alkalinity
- APA registered underlayment, sanded face exterior grade with minimum rating of C-C plugged face
- APA registered exterior grade plywood sanded face with ratings as follows: APA A-B, A-C, B-B, B-C, C-C plugged face
- APA Approved / Rated OSB panels, minimum 23/32” thickness, properly installed. It is recommended to fully sand the surface of the OSB panels to ensure smooth, even seams and reduce the surface ridges on the panels. Contact Technical Support for guidelines.
- Properly prepared and well bonded existing resilient floor covering, single layer only
- Cement Terrazzo, ceramic tile, marble – must be properly prepared.
- Certain metal floors – contact Novalis Technical support for assistance.
- Old adhesive residue that has been properly prepared.
- Radiant heated floors where heat does not exceed 85°F (29°C)

The following are not approved substrates for installing Lyndon HDC flooring: Rolled or panel-type foam, rubber, cork or other compressible underlayments not recommended by Novalis Innovative Flooring; rubber, cork or asphalt tiles; textured or cushion backed resilient flooring; “Sleeper” floor systems or plywood floors that have been installed directly over a concrete slab; lauan and mahogany-type plywood panels; Masonite™ or other hardboard or fiber based underlayment; CCA (pressure treated), oil treated or other coated plywood; CDX or other plywood with knots or open defects; underlayment made of pine or other soft woods; hardwood flooring; paint, wax, oil, grease, residual adhesive, mold, mildew, and other foreign materials that might prevent floating planks and tiles from natural movement; other uneven or unstable substrates.

Substrate Preparation

Although Lyndon HDC flooring is not susceptible to damage from moisture, excessive subfloor moisture is an ideal breeding ground for mold, mildew and fungus-all of which can contribute to an unhealthy indoor living environment. If excess moisture is found in the substrate proper remediation steps should be taken prior to installation.

All substrates must be properly prepared and tested according to the following guidelines.

1. Concrete Subfloors
 - a. Concrete substrates should be properly prepared according to the latest revision of ASTM F710, *Preparing Concrete Floors to Receive Resilient Flooring*.
 - b. All concrete substrates, regardless of grade or age of slab, must be properly tested using one of the methods outlined below for warranty to apply. Acceptable test method is the ASTM F 2170 and ASTM F1869. Testing shall be conducted according to the relevant ASTM documentation and instructions of the manufacturer of the testing equipment. Consult Technical support for RH values greater than 85% or MVER 5 lbs./1,000 sqft./24 hrs.

- c. Concrete Alkalinity / pH Test shall be conducted in accordance with ASTM standards. Acceptable level of pH in the substrate is between 7 and 10.
- 2. Wood Subfloors
 - a. All wood substrates should be prepared according to the latest revision of ASTM F1482 *Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring*.
 - b. Wood panel subfloor construction shall be a minimum of 1" in total thickness.
 - c. Panels designed as suitable underlayment shall be at a minimum ¼" in thickness, dimensionally stable, fully sanded face to eliminate grain texture or show through, and have a written manufacturer's warranty and installation instructions. Panels shall be installed according to manufacturer's instructions regarding stapling pattern, sanding and filling of joints, and acclimation to installed environment. Where not specified consult ASTM 1482 or the relevant document from the American Plywood Association.
- 3. Gypsum and Lightweight Cellular Concrete Substrates shall be per ASTM F2419 or F2471 respectively.
Contact Technical Services at 704.799.1111 or techsupport@novalis-intl.com for instructions over gypsum and lightweight concrete substrates.
- 4. Existing resilient flooring must be single layer only, thoroughly stripped of all wax, floor finish, dirt and other contaminants that may affect adhesive bond. Be firmly bonded to the substrate, flat and smooth with no curling edges or loose seams. Must not be of a cushion back, loose-lay, or perimeter bonded floor.
- 5. Adhesive residue shall be properly prepared by hand scraping, mechanical scraping or grinding be used as a primary means of removing old adhesive residue. Black cutback/asphalt adhesives shall only be scraped by hand to remove any loose patches, trowel ridges and puddles so that only a thin residue layer remains. Residues shall be properly covered using a Portland based patching compound properly mixed with the manufacturer's recommended latex/acrylic additive. Do not use chemical adhesive removers.

WARNING!

DO NOT SAND, DRY SWEEP, BEADBLAST, SHOTBLAST OR USE ANY OTHER MECHANICAL MEANS TO PULVERIZE EXISTING TILE FLOORING, BACKING, LINING FELT, ASPHALTIC "CUT-BACK" OR ANY OTHER ADHESIVES. THESE PRODUCTS MAY CONTAIN ASBESTOS FIBERS AND/OR CRYSTALLINE SILICA. AVOID CREATING DUST. INHALATION OF SUCH DUST IS A CANCER AND RESPIRATORY TRACT HAZARD. SMOKING BY INDIVIDUALS EXPOSED TO ASBESTOS FIBERS GREATLY INCREASES THE RISK OF SERIOUS BODILY HARM. UNLESS POSITIVELY CERTAIN THAT THE PRODUCT IS A NON-ASBESTOS CONTAINING MATERIAL, YOU MUST PRESUME IT CONTAINS ASBESTOS. REGULATIONS MAY REQUIRE THAT THE MATERIAL BE TESTED TO DETERMINE ASBESTOS CONTENT.

- 6. Ceramic, porcelain, marble and granite tiles are suitable and must be properly bonded with intact grout joints and free of cracks or loose tiles. Surface of tile and grout joints should be free from sealers, coatings, dirt and contaminants. Properly prepare the surface of tiles by grinding any high areas and using a suitable Portland-based leveling compound and primer to fill in all low areas.
- 7. For any subfloors or substrates not listed please contact Novalis Technical Services. Any surface deemed unsuitable should be covered with an approved ¼" wood underlayment or suitable Portland-based cement leveler or patching compound. Always follow the manufacturer's recommended practices when covering an existing substrate.

Installation and Layout

Lyndon HDC Floating floors are designed with an angle/angle locking mechanism. This requires that the right side or end joint be installed first at a shallow angle and locked into place. The top or long joint is then installed by sliding the plank towards the row above and installed at the same shallow angle by engaging the long side joint and pressing down to lock. Use of a scrap piece of flooring with the tongue intact can be used to fully seat the plank if needed. See Section 4 below for installation instructions.

1. Layout

- a. Install flooring perpendicular to direct sunlight sources, including large windows, doors, etc.
- b. It is important to balance the layout of the plank format. Proper planning and layout will prevent narrow piece widths at wall junctures. Determine layout to prevent planks having less than half the width or very short length pieces.
- c. A 5/16" spacing along all walls, at door jambs, and any and all vertical surfaces must be allowed for when determining your starting plank width. On runs of flooring longer than 65 feet (20 meters) control joints with a suitable T-molding are recommended to be installed with a minimum of 5/16" (8mm) gap between the sides of the t-molding or contact Technical Services at **704.799.1111** or techsupport@novalis-intl.com for assistance with these installations.
- d. For areas with varied or inconsistent temperatures from other installed areas, utilization of t-moldings between these area/rooms is recommended. A minimum of 5/16" gap is to be allowed on either side of the installed track where moldings are used; this will allow the installed areas to freely expand and contract during the extreme temperature fluctuations.
- e. Dry lay a section of plank from the center line to one wall to determine that the pattern is centered and fit. Border cuts should be measured and should not be less than half the width of a plank. If the cut row falls under these conditions, adjust the first row at the center line to make the centerline match the centerline of the row of planks.

2. Installing Lyndon HDC Floating vinyl flooring

Use of several 5/16" spacer blocks along the first wall will ensure the proper spacing is achieved and that floor does not 'walk' back towards the wall during installation.

- a. Determine if the starter row will need to cut from the Layout instructions above. It will be necessary to cut off the unsupported tongue on full planks on the edges placed against the wall so that a clean, solid edge is toward the wall.
- b. Starting in the farthest left, upper corner of the room, position the first piece so that both the head and side seam groove is exposed. This requires installing the product from left to right in the room.
- c. Install the second piece in the first row by angling the end tongue into the end groove of the first piece. Be careful not to bend the corner of the piece. Maintain an expansion gap of approximately 5/16" from the wall. Continue this row until the last piece is installed; utilize the cut off for starting the next row.
- d. Cut the last piece in the first row to fit approximately 5/16" short of the end wall. Use the cutoff of this plank to start the next row.
- e. Install the first piece in the second row by inserting the long side tongue into the groove of the piece in the first row. This is best done with a low angle (20° to 30°) of the plank.
- f. Install the second piece in the second row by inserting the short end tongue into the previously installed piece end groove. Align the piece by sliding it towards the first row so the long side tongue tip is positioned just over the groove lip of the piece in the first row; you will need to lift the left adjacent piece slightly off the subfloor. Working from the end seam, at a low angle (20° to 30°) insert the long tongue into the groove of the adjoining piece. Very little force is required to seat the tongue into the groove. You should feel the tongue lock into the groove.

- g. Continue installing pieces along the wall in the second row remembering it is critical to keep these two rows straight and square, as they are the “foundation” for the rest of the installation. Check for squareness and straightness often.
- h. Continue installing pieces, being certain to maintain a random appearance and offset end seams by at least 6”. Maintain a 5/16" expansion gap at all fixed vertical surfaces. Check to be certain all pieces are fully engaged; if slight gapping is noticed, the gap can be tapped closed using a scrap of flooring as a tapping block with a mallet.

After Installation

1. Be sure planks are set, flat and have tight edges.
2. In the event that the LV plank / tile flooring is not the last portion of the construction project, the floor must be protected from construction traffic and damage. Utilize a reinforced fiber protective board or a heavy Kraft paper (min. 60 lbs.) and cover the floor.
3. Initial maintenance can be performed immediately after installation of the Lyndon HDC flooring. Cleaning utilizing a neutral pH cleaning solution and mop is recommended. White, green or blue abrasive pads can be used to remove heavier deposits. Rinse the floor thoroughly and allow to air dry. Do not overwater the flooring.
 - i. Daily and weekly maintenance by sweeping, vacuum or dust mopping the floor as needed to remove dust loose dirt and grit. In high traffic areas this may be a daily or twice daily procedure. Use only vacuums that do not have bristle beater bars or metal heads.
 - j. Clean liquid spills immediately to prevent the possibility of stains, slips or falls.
 - k. Damp mop the floor as needed to remove dirt and stains. Use a neutral pH cleaner and a white, green or blue pad if needed to remove ground in dirt. Soft white bristle brushes can also be used on flooring with embossed surfaces.
3. Preventative steps
 - a. Use mats at all entry areas to keep dirt, sand and water off of the floor. Clean the mats on a regular basis. If mats are placed directly on top of the Novalis floor, be sure the mats have a non-staining back. Rubber mats are not recommended over Novalis flooring products.
 - b. Furniture shall have protective glides of at least 1” in diameter to minimize indentations or scratching to the surface of the floor. Do not use narrow chair glides! Felt pads are also excellent protection for the floor for furniture that will be frequently moved directly across the floor.
 - c. Do not move heavy furniture, appliances or fixtures directly across the floor. Use protective boards or appropriate furniture movers designed for use over hard surface flooring.
 - d. Protect the floor from direct sunlight by using appropriate window coverings.
 - e. Areas with caster chairs must have protective mats under the chairs. Use chair mats at desks to protect the floor from damage due to chair legs or casters. Periodically clean caster wheels and check for wheels that may be broken or no longer rotating. Replace damaged wheels immediately.
 - f. Avoid use of metal or razor scrapers to remove dirt, residues or other marks from flooring. This will damage the protective wear layer of the vinyl flooring.

Reference Documents

The latest versions of all listed Standards, Guides and Work Practices shall be used in all cases.

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| ASTM F 710 | Standard Practice for preparing Concrete floors to receive resilient flooring |
| ASTM F 1482 | Standard Practice for Installation and Preparation of Panel Type Underlayment's to Receive Resilient Flooring |
| ASTM F1869 | Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride |
| ASTM F 2170 | Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs using In Situ Probes |
| ASTM F2419 | Standard Practice for Installation of Thick Poured Gypsum Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring |
| ASTM F2471 | Standard Practice for Installation of Thick Poured Lightweight Cellular Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring |
| ASTM F2659 | Standard Guide for Preliminary Evaluation of Comparative Moisture Condition of Concrete, Gypsum Cement and Other Floor Slabs and Screeds Using a Non-Destructive Electronic Moisture Meter |
| ASTM F2678 | Standard Practice for Preparing Panel Underlayments, Thick Poured Gypsum Concrete Underlayments, Thick Poured Lightweight Cellular Concrete Underlayments, and Concrete Subfloors with Underlayment Patching Compounds to Receive Resilient Flooring |
| ACI 302 | Guide for Concrete Floor and Slab Construction |
| RFCI | Recommended Work Practices for Removal of Resilient Floor Coverings |
| APA | American Plywood Association |
| CANPLY | Canadian Plywood Association |